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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,786	12/11/2000	Yasushi Ichikawa	Q62216	2733

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EXAMINER

DUONG, THANH P

ART UNIT

PAPER NUMBER

3711

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,786

Applicant(s)

ICHIKAWA ET AL.

Examiner

Tom P Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-10 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakahira (4,429,068).

Regarding claims 1-2, 9, and 14, Nakahira discloses a rubber composition for core of golf ball (Col. 5, lines 35-36) having a rubber components including a silicone rubber and silicone rubber powder (Col. 6, lines 40-41). Note that a blended silicone rubber in liquid form with silicone rubber powder of Nakahira is resulted in a composite powder. Regarding claims 3 and 4, Official Notice is taken that it is conventional to utilize the claimed silicone rubber structure and it inherently desirable because such structure provide high degree of flexibility at low temperature application. Regarding claims 5-7, Official Notice is taken that it is inherent that the silicone particles size, its shape, and the blended amount affects the dispersity of the polymer mixture and material properties of the final product and the selection of size, shape, and blended amount is a matter of design choice thru routine optimization. Regarding claim 8, the methyl and phenyl are functional group in the claimed silicone structure. Regarding claim 8, the methyl and

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phenyl are functional group in the claimed silicone structure. Regarding claim 10, Nakahira discloses a styrene-butadiene rubber (Col. 6, lines 35-37) or styrene block copolymer and urethane rubber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahira '068 in view of Official Notice. Regarding claims 11-13, Official Notice is taken that it is conventional to utilize ionomeric material in the golf ball composition and it would have been obvious to use such material in Nakahira to improve durability (i.e., cut resistance) and flight distance. Regarding claim 13, Official Notice is taken it is conventional to cross-link carboxylic acid with polybutadiene and neutralize it with metal ion to improve mechanical strength and compression. Claim 15 recites limitations similar to claims 1 and 13; thus, claim 15 is rejected for the same reasons as applied in claims 1 and 13, above.

3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sullivan (6,204,331) and (6,162,134) in view of Ueshima et al. (5,502,095) and Nakahira '068. Regarding claims 1 and 9, Sullivan discloses the core and/or the interior layer include one or more silicone materials such as silicone polymers, silicone fluids, silicone elastomers, and silicone resins (See Col. 3, line 27-310). Sullivan does not expressly teach that the golf ball composition is blended with at least one of a silicone rubber powder, silicone resin powder, and composite powder but Sullivan discloses that the polymers can be combined with fillers, additives, and solvents to result in products generally termed as silicones. (Col. 20, lines 21-23). Ueshima et al. discloses the thermoplastic elastomer composition consist of component (C), polyorganosiloxane. Polyorganosiloxane is blended with resin or rubber or filler such as a silicone rubber powder. (Col. 6, line 61-65). Ueshima further teaches that this blended composition can be used as an elemental material for sport and leisure goods (e.g. golf club grip, baseball ball bat grip, swimming and etc.) and other rubber contacts. Nakahira discloses a rubber composition for core of golf ball (Col. 5, lines 35-36) having a rubber components including a silicone rubber and silicone rubber powder (Col. 6, lines 40-41) to improve physical properties such as impact resilience (Col. 5, lines 40-52). It would have been obvious in one of ordinary skill in the art at the time of the invention to include the silicone rubber powder of Ueshima and/or silicone rubber resin and powder of Nakahira in Sullivan's golf ball composition to improve flexibility, ease of molding, and impact resilience. Regarding claim 2, Sullivan discloses that the silicone rubber in the interior layer or core of a golf ball can be coated with primers such as silicate esters,

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silicone pastes, silicone resins or reactive silanes (See Col. 29, lines 15-18). Regarding claims 3 and 8, Sullivan discloses the silicone elastomers comprise cross-linked polydimethylsiloxanes (Col. 21, lines 57-60). Sullivan does not disclose the exact composition methylphenylpolysiloxane but Sullivan discloses the properties of polydimethylsiloxanes are typically modified by substitution of methyl groups on the silicone atom by hydrogen, alkyl, phenyl, or organofunctional group. Regarding claim 4, Sullivan discloses silicone resins are cured through the formation of siloxane linkages by the condensation of silanols (Col 31, lines 16-17). Regarding claim 5, Sullivan shows the particle size within the range of 0.5 to 50 μm and a particle size distribution ranging from 0.1 to 100 μm . (See Col. 24, Table 11). Regarding claims 6, Sullivan does not disclose the amount of blended silicone in the composition. Ueshima et al. teaches that the amount of polydimethylsiloxane added is 0.01 – 10 parts by weight which is equivalent to 0.01 – 10% by weight. It would have been obvious in one of ordinary skill in the art at the time of the invention to include the silicone rubber/resin/composite of Sullivan to have 0.01-10% polydimethylsiloxane by weight in the blended composition to provide excellent moldability, resilience, and flight performance. Regarding claim 7, Ueshima teaches that the particles are spherical. (See Col. 6, line 23). The Applicant should also note that a change in the shape in the shape of a prior art device is a design consideration within the skill of the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). Regarding claim 10, Sullivan discloses various ionomer resins and the rest of the compositions, as claimed by the Applicant, are cited throughout his patent application. Regarding claim 11, Sullivan discloses that ethylene ionomer resin with a

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metal salt of an unsaturated carboxylic acid such as acrylic acid, methacrylic acid or maleic acid, which could be neutralized with a metal ions such as sodium or zinc (Col. 2, lines 1-5). Regarding claim 12, Sullivan shows the ethylene acrylic acid copolymers with a Shore D hardness of 40-50 with a 20% acid content by weight (see Col. 11, Table 1). Regarding claim 13, Sullivan shows the formulation for molded core with 70.7% of a high cis-polybutadiene (See Col. 39, Table 20). Claim 14 recites limitations similar to claims 1 and 10; thus, claim 14 is rejected for the same reasons as applied in claims 1 and 10, above. Claim 15 recites limitations similar to claims 1 and 13; thus, claim 15 is rejected for the same reasons as applied in claims 1 and 13, above.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (703) 305-4559. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Sewell can be reached on (703) 308-2126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 873-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

Tom Duong
March 19, 2003


Paul T. Sewell
Supervisory Patent Examiner
Group 3700